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AMERICAN FRUIT GROWER

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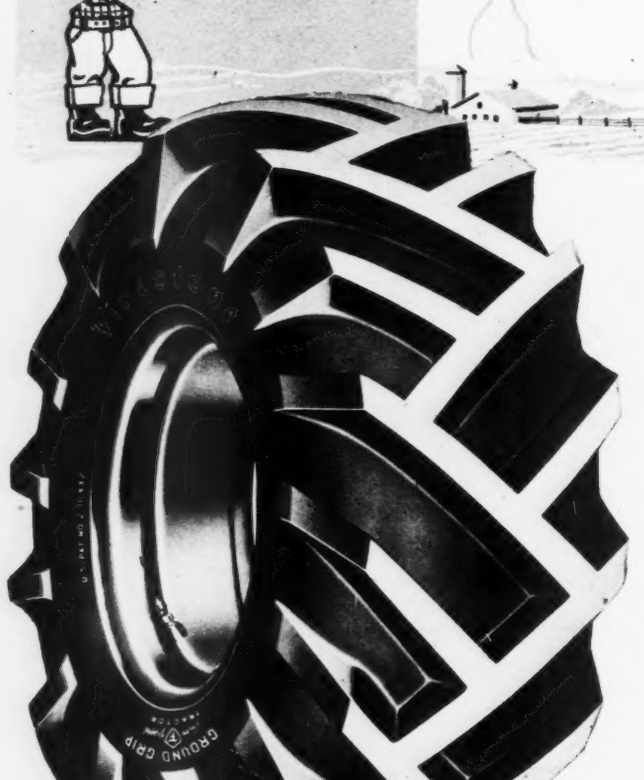
ROUND-UP OF FRUIT CROP FORECASTS—Page 7

1943

Mr. EXTRA TRACTION SAYS . . .

"THEY DO EVERYTHING Better . . THAT'S WHAT YOU WANT TRACTOR TIRES TO DO"



TODAY, more than ever before, you need tractor tires that do more work, and last longer, yet *cost no more* to buy and actually *cost less* per year. One tractor tire and *only* one meets these requirements — the Firestone Ground Grip. And here's why:

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2. IT DOES MORE WORK . . . because up to 215 EXTRA inches of traction bar length per tractor gives you a full width traction bite and eliminates those open spaces which cause traction leaks and allow ordinary tires to slip and spin.

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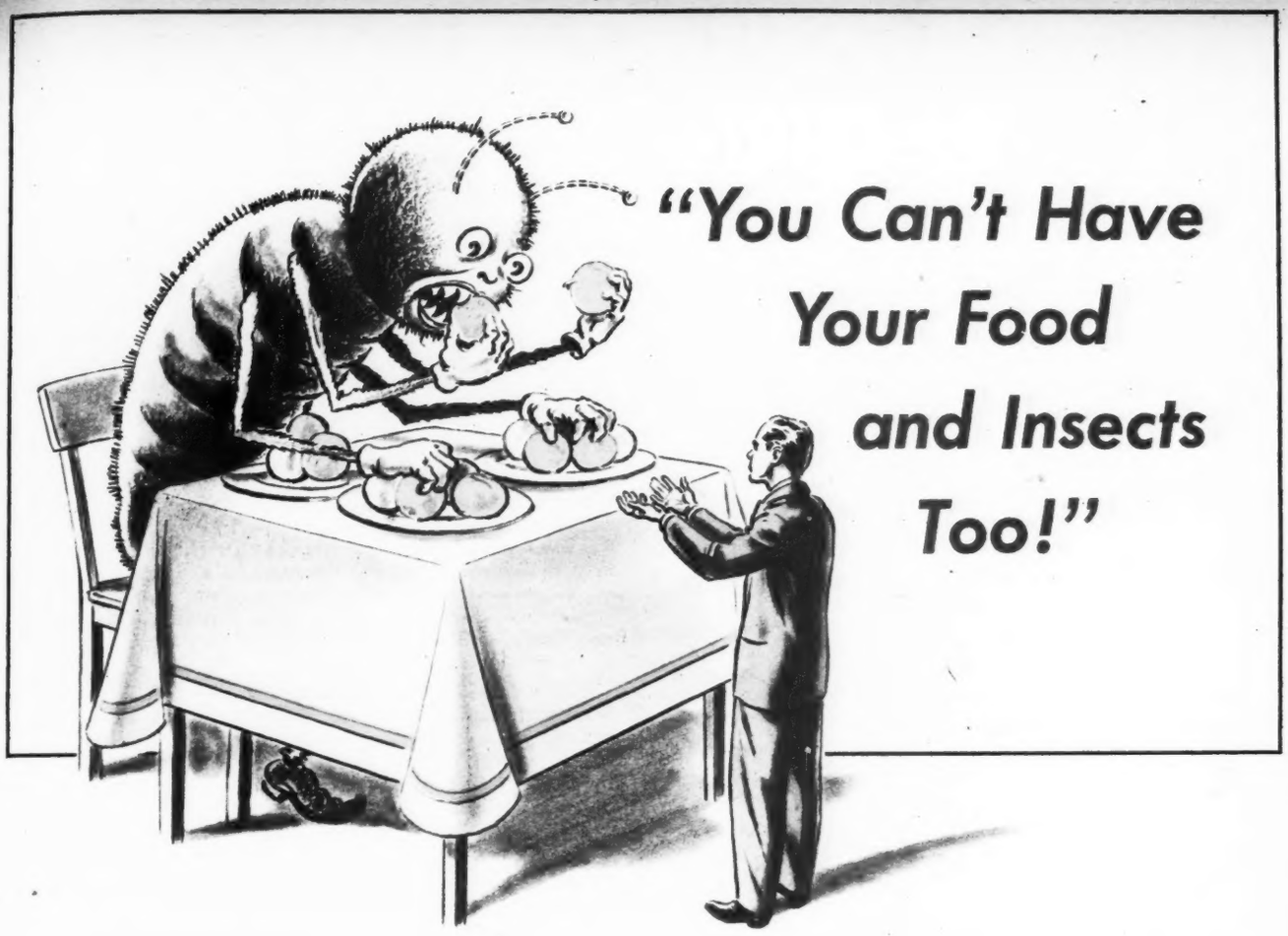

"You Can't Have Your Food and Insects Too!"

THE original quotation was about cake but this timely version is more to the point. Today, food is needed to win a war—to feed fighters, workers and friendly nations overseas.

One important way to get more food production per man hour is to control the insects and diseases which cost billions of dollars in waste of crops, labor and materials.

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*LORO Contact Insecticide	Sulfur	*BLACK LEAF "40"	*PARMONE Hormone Spray
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FOOD—and the Farm Equipment SHORTAGE

A Report to the Farmer:

WE HAVE learned with surprise that in some parts of the country farm equipment manufacturers are being charged with responsibility for the inadequate supply of farm equipment now available.

The statement has been made that farm equipment manufacturers are more interested in producing war materials than in producing farm equipment.

Certainly our industry is interested in producing war materials. No one would want us to be otherwise. But we have never forgotten that to enable the farmer to meet wartime food production goals we must build farm equipment, and we have constantly urged upon the government the need for greater amounts of farm equipment, a view which has now been acknowledged to be correct. Our operations, with respect to both war production and farm equipment production, have at all times been governed by the decisions and actions of the government.

The statement has also been made that our industry cannot make enough farm equipment because its plants have been converted too largely to war production.

It is true that International Harvester Company is engaged on a very large program of war production, but it is *also* true that we have always had facilities available for the production of farm equipment.

We want farmers and the public generally to understand the facts about the farm machinery situation, which is of vital importance in determining whether the United States can do the food production job.

1. What is Necessary to Supply Farm Machines?

To supply farm machines and replacement parts today, a manufacturer must have five things: First, plants and facilities; second, men and women to operate the plants; third, authority from the government to build a certain amount of machinery and replacement parts; fourth, materials out of which to make the machinery and replacement parts; fifth, an adequate system for timely distribution of these products.

Our company and other farm equipment manufacturers have the plants and facilities. We have, or can speedily train, the men and women needed. We have a large and capable distribution organization which, left to itself, can do the job properly. *But both authority to manufacture and materials for manufacture can be provided* ONLY *by the government. And at present the distribution of farm machinery is also completely controlled by the government.*

The government has never asked us to convert all our facilities to war work and we have never considered doing so. The government knew, and we knew, that farm equipment production, up to some limit, would prove as vital to the war effort as production of guns and shells. Throughout the war, our farm equipment factories have continued to produce new farm machines in the limited amounts allowed by the government, and we have regularly produced a large volume of replacement parts, which are made on the same equipment and by the same employes as parts which are assembled into completed farm machines.

Our war work is largely of a kind which requires the automotive type of buildings and facilities and is being carried on principally in our plants of that nature. War work also has been placed in a number of the large warehouses which are characteristic of the farm equipment business. Although most of our farm equipment manufacturing capacity is not adaptable to war production, we do have some war production in every plant of the company.

For all these reasons, the great bulk of our farm equipment production facilities is available now and has been available at all times throughout the war. Those facilities are capable of turning out many times the amounts they are now producing.

2. Can More Machines Be Built in Time for 1943 Use?

The War Production Board's 1943 farm equipment program, which provided for production of only 23 per cent of the amount of new farm equipment that had been built in 1940, was too small to meet farmers' needs. This has now been publicly recognized by official Washington, and the government has recently announced that it was granting authority for increased 1943 production of some farm machines. This recognition, however, comes too late in this year for the situation to be more than partially corrected.

Included on the government's list of increased machines were such items as tractors, which are useful at any season of the year, and harvesting machinery, which in most sections of the country and for most crops is used relatively late in the year. Production of these machines can still be increased in time to help in 1943.

But production cannot be increased overnight and this authority to manufacture will be useless unless it is accompanied at once by the necessary materials.

Undoubtedly many farmers – and probably some county rationing committees – have expected increased numbers of machines to appear immediately after government announcements of increased authority to manufacture. It must be remembered that after authority has been granted, from 60 to 120 days are required to get steel and other materials, time is required to turn these materials into finished machines, and additional time is required to get them to the places where the government orders the manufacturer to send them. Most farm machines cannot be shipped by the manufacturer until they have been tagged by order of the Department of Agriculture for the particular county of the United States where the government has decided they are to go.

The government has recently increased somewhat its allotment of steel to farm equipment production, but farm machines cannot be built of steel alone. Other critical component parts are required.

If these components are provided at once, the output of tractors and harvesting machinery for 1943 delivery can still be increased.

3. Will There Be Enough Machinery in 1944?

Yes . . .

IF the government draws up its farm equipment production program for 1944 in accordance with the needs of American farmers, and

IF the government makes that program definite and effective in the immediate future, and

IF distribution down to the retail level is fitted to the needs of the food program and carried on by experienced and tested manufacturers and *retail dealers' service organizations,* in cooperation with the government, and

IF, above all, the government will provide the needed materials regularly and on time,

THEN, the farm equipment industry will certainly build the machines to do the job.

Fowler McCormick
President
INTERNATIONAL HARVESTER COMPANY, CHICAGO, ILLINOIS

INTERNATIONAL HARVESTER

AMERICAN FRUIT GROWER

E. G. K. MEISTER, *Publisher*

Post-War Planning in the Fruit World

MANY of our best thinkers are pondering over the possibility that we may "win the war, but lose the peace." Therefore, post-war planning goes on apace.

In the fruit growing industry farsighted leaders also are pondering the possibilities contained in post-war planning. The impact of war upon the fruit industry—with fruit recognized as a food vital to Victory—has been tremendous. The impact of peace also will bring tremendous problems, great responsibilities, and even greater opportunities.

In the forthcoming July issue AMERICAN FRUIT GROWER will present some of the important problems and opportunities involved in post-war planning for the fruit industry. And because of the basic importance of the editorial presentations of post-war planning, they will be published at that time in conjunction with the Annual Directory Issue which normally is published in June.

The war has made unprecedented demands upon the fruit industry. It has also given to the industry an importance which heretofore could scarcely be imagined. Since the days of Napoleon, it has been an axiom that armies traveled upon their stomachs. It remained for this war, however, to bring about studies and research in the field of nutrition on a scale and magnitude never before undertaken. Out of this study and research has come a greater and a more scientific evaluation of the importance of fruit in the daily diet, not alone for the maintenance of the health and strength of our fighting men, but also for the proper maintenance and the health of the nation.

In the post-war world one of the outstanding responsibilities will be that of raising the nutrition and health standards of all peoples, and to that end fruit will be a scientific factor to a degree never before recognized.

The responsibility as well as the opportunity which the prospect presents demands of the fruit industry the soundest and most forward-looking post-war planning—and that planning must be done now, before peace brings its inexorable demands for the future and a new world.

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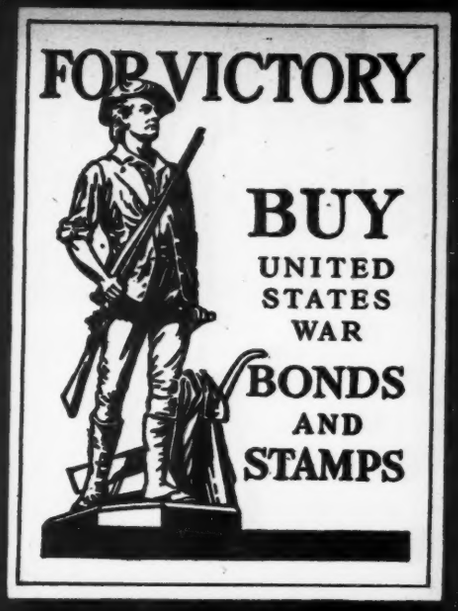

"MY COUNTRY, 'TIS OF THEE"

WAR Food Administrator Chester C. Davis recently announced that steps were being taken to improve the farm machinery situation which is not entirely satisfactory in view of the high production goals set up for foods this year.

The Food Administrator pointed out that the War Production Board has agreed to an increase in farm machinery production in 1943 from 23 per cent of the 1940 level to 40 per cent, and farm machinery parts have been increased 160 per cent of the average production during 1940-41.

Mr. Davis has asked the WPB to authorize for 1944, 80 per cent of the 1940 production of farm implements and to place no limit on the manufacture of parts.

★

CONTROL over the uses and distribution of rotenone insecticides for agricultural purposes has been transferred to the War Food Administrator by the War Production Board. Like pyrethrum, rotenone and any compound containing rotenone combined with other liquid or dry materials, active or inert, has been placed under the direction of the War Food Administrator to insure the efficient distribution to and use by the ultimate agricultural consumers.

★

SUGAR for home canning is being allotted on substantially the same basis as last year. That is, one pound for each four quarts, or eight pounds, of the finished product, according to the Office of Price Administration. A top limit of 25 pounds of sugar per person is set by OPA. This sugar will be obtained by written application to local boards.

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NATIONWIDE NEWS

(Continued from preceding page)

UNTIL 1939 Italy supplied the United States with quantities of lemon and orange oils that flavored U. S. foods, beverages and medicines. Now, according to the USDA, these oils are being extracted from the rinds of citrus fruits that formerly went to waste in this country.

The Italian small farmers used to extract these oils by either scraping the rind surface with a spoon, or by twisting the fruit against ridges set within a funnel, catching the oil from the ruptured cells as it trickled down the spout.

When the war cut off shipping from Italy, citrus distributors here began to produce more citrus oil and byproducts, usually expelling them from the rinds in hydraulic cold presses after the pulp had been removed. This country now is self-sufficient in citrus oil and even is supplying its Allies.

★

DURING the past month a series of meetings have been held in different sections of the country with representatives of the fresh fruit trade and the War Food Administration. Arranged for by the OPA, these meetings were held to discuss proposed price ceilings on fresh fruits which is part of OPA's policy to bring all possible foodstuffs under price control.

The delegations of the Nation apple growers said to the government, "We are opposed to price ceilings for apples and other perishable commodities because we do not believe they will work. However, if you insist, we recommend one retail ceiling price for this next season based on the best grade of the leading commercial variety of apples with that ceiling established at a level high enough to insure maximum production in the most remote producing areas. We can get behind such a plan and help."

★

A NATIONWIDE program to encourage greater salvage and re-use of fresh fruit containers, along with vegetable and egg cartons, was launched by the War Food Administration. Demands for containers is greater than usual and WFA is calling upon food handlers, producers, retailers, growers, and others to take all possible steps to make full use of containers already manufactured.

This means that all interests handling fresh fruits will have to make a special effort to save and re-use every container possible to prevent loss of fruits through lack of shipping packages.

★

WAR Food Administrator, Chester C. Davis, has announced that management of the farm labor program to be set up within the War Food Administration will be under Lt. Col. Jay L. Taylor, Deputy War Food Administrator. Under Col. Taylor, M. L. Wilson, Director of Extension Work, will be responsible for mobilizing farm labor for use within each state.

Cooperating with the WFA in the farm labor program are the U. S. Employment Service, Selective Service Bureau of War Manpower Commission, Office of Civilian Defense, U. S. Office of Education, and other agencies.

Some major objectives are to keep a nucleus of experienced skilled workers on the farms and orchards, and to encourage the return to agriculture of persons who are not engaged in essential activities.

★

BLAND apple syrup, the new product developed by laboratories of the USDA, which is being used to replace glycerine in the manufacture of cigarettes, has been removed from all price control by OPA.

Manufacturers were unable to produce it at the ceiling price of 16 cents per pound. Price control was removed to allow more manufacturers to enter the field. If prices advance unreasonably, OPA again will bring it under control on a more satisfactory basis.

Apple growers have been watching the development of this new apple product with much interest. If it should become the accepted moisture retaining material for cigarettes, it would create a great new outlet for apples.

★

THE War Production Board is asking for three million tons of farm and orchard and rural scrap before the end of June. This means that every farmer and grower in the country must comb every acre of his property in search of scrap.

★

THE number of hired (non-family) workers employed on farms and orchards is running nearly 10 per cent less than a year ago, according to estimates of the Department of Agriculture. This decrease in employment of hired farm workers has occurred despite a more than 30 per cent wage advance over the same period and is, of course, a result both of departures into the armed forces and of better employment opportunities outside of agriculture.

★

ACCORDING to the Bureau of Agricultural Economics, the annual number of accidental injuries on the farms and in the orchards was estimated to be greater than in any other single industry. Therefore, it is urged that this year every grower provide safe working conditions for his employees, especially in view of the employment of unskilled labor as will be necessary in 1943.

Workmen's compensation laws exist in all States except Mississippi. This along with employer's liability insurance and accident insurance provide three measures which the grower can take for protection in addition to the provision of safe working conditions.

★

AMENDING a previous rule preventing replacement of tractor tires under any circumstances if the tires for which replacements were sought were in recappable condition, the OPA has announced that replacement tires for tractors can be issued when recapping facilities are not available.

Furthermore, a greater number of recaps for farm trucks will be available as a result of an OPA action which removed quota restrictions on the number of certificates for truck tire recapping, which became effective May 1.

★

AT a recent meeting of the Food Distribution Administration's Pectin Industry Food Advisory Committee, it was pointed out that the production of pectin this year will be the equivalent of approximately six million pounds of the powdered product, nearly twice the normal output. Government requirements will be a little less than half this amount.

Pectin is obtained from apple and citrus peel left as byproducts of fruit juice and vinegar production.

AMERICAN FRUIT GROWER PRESENTS

A ROUND-UP OF FRUIT CROP FORECASTS

ALL present reports indicate a decrease for 1943 of fruit crops, this in the face of our national emergency with fruit a food vital to Victory. Short crops, therefore, will be a challenge to the whole fruit industry but especially to the resourcefulness, determination and practical patriotism of all growers in meeting the situation by producing and harvesting to the utmost and without waste. As the following round-up of forecasts reveal, here is the opportunity, figuratively speaking, for the fruit industry to win its "E" award from a grateful nation.—EDITORS.

REDUCED CROPS MEAN ALL-OUT EFFORT

By Claude R. Wickard
Secretary of Agriculture

WE know that frost damage has reduced production prospects for some fruits in many areas. Because of this fact and the heavy demands on available supplies for military and lendlease needs, it is imperative that every effort be made this year to give good care during the growing season and to save all fruit produced.

Extra effort, careful planning, and resourceful management by the entire fruit industry will be required. We are urging more canning and drying of fruits by home growers as a means of relieving the strain on the commercial pack.

Nothing should be left undone in the handling of the crop that will add to or help con-

(Continued on page 10)

20 MILLION BUSHELS LESS PEACHES

By Carroll Miller
National Peach Council

PEACHES in the United States will be 20 million bushels less than in 1942, according to the estimate of the National Peach Council. Apples may be 10 million bushels fewer, according to some Department of Agriculture authorities. This represents the dismal prospect of 30 million bushels less fruit in these two crops alone.

Actually, that 30-million-bushel shortage is only five per cent of the Nation's fruit crop. The 19 major fruits, grown in this country, grossed in 1942 the respectable total of 15,107,259 tons.

The estimated 20-million-bushel peach shortage means one-half million tons less. The 10-million-bushel apple reduction means another

(Continued on page 10)

1943 WILL NOT MEET APPLE DEMAND

By C. E. Chase
Washington State Apple Commission

THE importance of the fruit crop of the United States in this year's food program is fast becoming more apparent to many people and to our government. Heretofore, during times of apparent plenty, this has not been so evident. Rationing and price ceilings on many commodities, that in the past have been competing for the consumer's dollar, have presented a new picture. Consumers in many markets are finding only two or three fruits available to them, regardless of price or their eagerness to buy.

Fruit production in general throughout the United States this year will be lower, and the demand will be far greater. This is especially true of soft fruits. There will be a material

(Continued on page 10)

REGIONAL REPORTS INDICATE DECREASE

By John Chandler
National Apple Institute

IT IS somewhat early to predict with accuracy the 1943 apple crop. There are, however, indices which point to broad conclusions of what may well be the pattern of apple production this year.

We know that the Northeast produced almost a one-third larger than average crop in 1942. Throughout northern New York and New England, the old Baldwin orchards which suffered from the cold winter of 1933-34 produced their first heavy crop since that historic freeze. We know that the Northeast produced an enormous McIntosh crop, the leading commercial variety of the territory.

With these facts in mind, we can draw certain conclusions for the apple prospects of the Northeast for the 1943 season. It is safe to

(Continued on page 10)

REDUCTION EXPECTED IN FLORIDA CITRUS CROP

By MARVIN H. WALKER
Florida Citrus Commission

INDICATIONS are that the 1943-44 citrus crops in Florida will not be quite as large as the record production of 66,800,000 boxes of all varieties produced in the 1942-43 season.

However, final prospects for the Florida citrus crops will not be available until September, and it is impossible to make an estimate of any accuracy at this time because the June bloom on some varieties might change the present picture.

Citrus fruits from Florida, Texas and California have supplied consumers with most of the fresh fruits that they have had during the winter and spring months. The importance of these fruits in the National diet is recognized in the Federal Government's Nutrition Program which recommends their use every day as a source of Vitamin C.

The fact that about 30 per cent of the National citrus crop has been taken this past season for armed forces and lendlease is further evidence of the recognition of the food and health values of citrus products.

PROCESSING WILL CUT INTO APPLE CROPS

By Tom O'Neil
New York-New England Apple Institute

PERHAPS the total production of apples in the United States in 1943 will be somewhere in the neighborhood of 115 million bushels! It is realized, of course, that it is far too early to try to venture an accurate estimate of the size of the "King of Fruits" crop for this coming season, but reports would indicate a figure something like this.

While it is quite impossible to determine the quantity of apples from the 1943 production which will be available to move in commercial channels for fresh consumption, it may be worthwhile to consider the prospective requirements for processing during the coming season.

Government rulings allocate tin only for the canned apples and apple sauce to be re-

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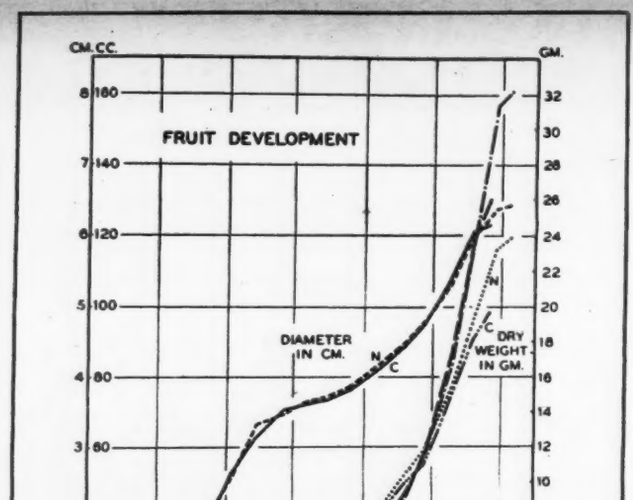

Figure 1: The chart above shows seasonal changes in size and dry weight in Halehaven variety at Urbana, Ill., 1938. C marks check fruit. N marks nitrated fruit. Cm. x 0.4 equals inches. One oz. equals 28.35 gms. One fluid oz. equals 29.57 cc.

FERTILIZING PEACHES

FOR HIGH QUALITY FRUIT

By DR. RICHARD V. LOTT
Department of Horticulture
University of Illinois

IN view of the facts that the 1943 goal for fresh fruit is maximum production, that satisfactory prices are probable for peaches, and that a large percentage of the buds have been killed by low temperatures in some peach-producing regions, it is desirable for the peach grower to employ all possible means by which the production of high quality fruit may be increased.

The ultimate object of any fruit growing enterprise is the production of maximum crops of high quality fruit at minimum cost. The use of nitrogen fertilizer is an effective means of helping to attain this objective. Nitrogen increases production by affecting both tree growth and fruit growth. It increases the number and length of shoots, thus providing a greater bearing area and more fruit buds for the next year's crop. It also increases the number, size, and green color of leaves, thereby enhancing the food manufacturing potentialities of the leaves. Its use results in: a higher per cent of fruit set which is of considerable importance in years of heavy bud loss from low temperatures; usually less extensive fruit drops; larger sized fruit when trees are properly thinned; no significant difference in quality when the amount applied is not excessive.

NITROGEN fertilizers are being allocated under the provision of Food Production Order 5. Fruit growers are eligible for fertilizers if they used them in either of the fiscal years, 1940-41, or 1941-42. The amount they order must not exceed their requirements as based on the recommendations of their State Agricultural Experiment Station. In any case, growers may not be able to obtain more than 75 per cent of their needs for nitrogen.

In addition, experience this spring indicates that deliveries may be delayed so that the benefits of applications following bloom should be considered fully.—The Editors.

The above results can be expected unless the supply of other plant nutrients is limited, as has been reported in South Carolina, for example. The use of excessive amounts of nitrogen over a term of years may result in extreme vegetative growth and fruit of inferior quality. This condition can be avoided easily by limiting the amount applied to that which results in a large number of well-distributed shoots 10 to 18 inches long and relatively few shoots two to three feet or more in length.

In Table 1 (shown on page 18) and Figure 1 are shown some results from a study at Urbana, Illinois, in 1938 of the development of fruits from unfertilized and nitrogen fertilized 6-year-old Halehaven trees of moderate vigor. The fertilized trees were given two applications of nitrate of soda or five pounds each; the first, 17 days before full bloom and the second, just as the stones were beginning to harden, which was 51 days after full bloom. This unusually large amount was applied to insure a difference in vigor.

Figure 1 shows that the fruit increased in size (diameter and volume) in three periods: the first period ending approximately 57 days after bloom when the stone was first considered to be hard; the second of slower size-increase ending approximately 76 days after bloom; and the third period of rapid size-increase until harvest. However, on the dry weight basis there was no second period of fruit growth. Since dry matter accumulation expresses development on a nutritional basis, the grower should keep in mind the fact that, even though there is a period of slow increase in fruit size, the nutritional needs, including nitrogen, are increasing during this period.

Figure 1 also shows that the significant effect of nitrogen on both size and dry weight occurred near harvest, as is evident by the continued development of the nitrated fruits after the check fruits had begun to ripen. This caused the nitrated fruits to ripen six days later than the check fruits. Both lots of fruit were harvested at approximately three pounds pressure with the Blake pressure tester, using the 3/16" plunger. Growers should be especially careful to allow fruit on nitrated trees to reach maximum handling maturity in order to get the full benefit of the effect of nitrogen on fruit size and to allow maximum sugar development.

Table 1 is limited to the third period because Figure 1 shows that the effects of nitrogen did not become apparent until that time and particularly near harvest. The check fruits were 3.7 times as large at harvest as at the beginning of this period and the nitrated fruits were 4.5 times as large. This shows the need for orchard practices which provide an extensive and healthful leaf area for carbohydrate manufacture. The fact that the large size increase in the third period occurred in only 33 days in the check fruits and 39 days in the nitrated fruits, whereas the previous growth of the fruit had occupied 84 days. further emphasizes the very rapid growth that occurred during this period and also shows the need for nitrogen applications early enough in the season to provide the extensive leaf area needed at this time if maximum size is to be obtained.

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PEARS ARE TOPS IN OREGON

By C. B. CORDY

Assistant County Agent, Medford, Oregon

OREGON ranks as the leading winter pear producing state, and pears are the leading fruit crop in the state. From the start the winter pear industry in Oregon was founded and has prospered on the basis of producing and marketing a top quality product.

The natural desire of the growers to produce quality pears has been materially supported by the fact that it is unprofitable to produce poor pears and to transport them to distant markets. As a result, the quality of Oregon winter pears is unsurpassed.

The two leading pear producing centers in Oregon are the Medford area in Southern Oregon and the Hood River Valley in the Northern part of the state. The Medford growers have pioneered winter pear production and now have nearly 10,000 acres of pears which is about one-half the state's total. This district's annual total production is two and one-fourth million packed boxes of pears, two -thirds of which are winter varieties.

Commercial pear production is successful only in areas that fulfill definite climatic requirements. A combination of weather conditions must exist that is suitable for the development of quality fruit, but that is not favorable for extreme development of pests and diseases. The Medford area, about which this article deals, is one of the areas possessing these favorable conditions.

Moderately cool winters and semi-arid summers characterize the seasons. The cool winters are necessary to give the trees an adequate period of rest. The dry summers with warm days and cool nights put quality in the fruit.

While this type of season is desirable for pears, it does encourage certain production difficulties. The cool winters frequently are blended into the summers by a frosty spring, and the dry summers necessitate supplying water by irrigation if maximum production is to be attained.

Fortunately, this valley is surrounded by mountains on which considerable snow accumulates during the winter. The spring run-off of snow water and rain is stored in reservoirs until needed in the summer. It is then conducted to the Valley in main canals and distributed to the orchards and other farm lands in lateral ditches.

Most orchards are irrigated three or four times during the summer. The most common method of irrigating is

(Continued on page 12)

Above is a harvesting scene in an Oregon pear orchard. High quality pears is the chief aim of each pear grower in the State and this huge tree evinces success of this ambition. The quality of Oregon winter pears is unsurpassed. Below is a panorama of an extensive pear orchard. Mountains in the background are a source of excellent irrigation, contributing greatly to the success of pear growing in Oregon, where irrigation is an important factor.

A ROUND-UP OF FRUIT CROP FORECASTS

(Continued from page 7)

REDUCED CROPS MEAN ALL-OUT EFFORT

serve our total supply. Fruit is not only a vital part of our national diet, helping safeguard health on the home front, it also is providing a substantial part of the fighting strength of our armed forces and our Allies.

Fruit is important to victory and it is up to all who are concerned in growing, harvesting, marketing, and packing fruit to make this year's crop go as far as it possibly can.

20 MILLION BUSHELS LESS PEACHES

one-fourth million tons less. Granting that other fruit crops average about the same as last year, the Nation still will have 14-1/3 million tons of fruits which is two million tons more than we had in the 1930-39 average. Consequently, the picture is not too dark from the food-supply viewpoint.

We doubt, however, that Eastern peach growers will be philosophical and adopt this viewpoint. The 1943 season for them will be lean. Georgia has in sight 16 per cent of last year's 6-million-bushel crop. The two Carolinas will have only about 10 per cent of their last year's 6-million bushels. Arkansas, Virginia, Tennessee, Texas, Alabama, Illinois, and New York have suffered likewise. Pennsylvania and New Jersey appear at this time to be the only more fortunate sections. Pennsylvania may have more peaches than last year, and New Jersey almost as many. The West and Northwest probably will have normal crops.

The acute peach shortage falls in the fresh-consumption class which represents about two-thirds of the crop. Peaches for eating and home canning will be scarce. The 20-million-bushel peach shrinkage is 44 per cent of the approximate 45 million bushels that were eaten out-of-hand, or home-canned, last summer. That means 56 peaches where we ate or canned 100 last year.

Whatever we have, it will be food . . . and precious.

1943 WILL NOT MEET APPLE DEMAND

decrease in the amounts of canned and processed fruits.

Government demand for fresh and processed fruits was of great importance during the last season and requirements for army, navy and lendlease have been increased greatly for this season. Naturally this shortens the supply for civilian sources.

Apples, being of great importance and being produced commercially in more than 40 states, take the leading fruit role in these war times. The demand for fresh and processed apples for war uses has increased tremendously, and the industry will not be able to supply the quantity desired. Production will show a decrease from last season due to many causes that affect it during the growing season. Nationally, a good guess is that the apple crop will be from 10 to 20 per cent less than last season. About two-thirds of last season's crop was sold in fresh form for army, navy and domestic use.

It is hoped that a greater portion may be processed this year than last and, if this is done, the usual domestic supply of fresh apples will be reduced considerably. Every effort possible should be made to produce and conserve all fruits possible for the uses that are so vital to the United Nations.

REGIONAL REPORTS INDICATE DECREASE

say that after such a heavy production last year, the McIntosh crop will be relatively light. Some early varieties in the section may yield more than last year, but Baldwins and Spys and the other late varieties probably will be light. There are variations to this picture, however. Last year the McIntosh crop in western New York was not as heavy as it was elsewhere so there may be as many or more apples there this year.

In the Maine and Vermont apple sections the temperatures nose-dived into the thirties below zero and it is too soon to appraise the extent of the damage. In general, we can estimate at this time that the 1943 apple crop in New England will be from 15 to 25 per cent less than last year. Likewise, the New Jersey, Delaware and Pennsylvania apple crop will be from 20 to 25 per cent less than last year's bumper yield.

Throughout Maryland, Virginia, and West Virginia, and North Carolina, many orchards have suffered severely from low temperatures, and estimates for these states indicate a crop of from 30 to 40 per cent less than last year. Delicious seem to have been damaged the most.

It is expected that Ohio and Michigan will have almost as many apples as in 1942. Indiana, Illinois, Wisconsin, and Kentucky had short apple crops last season and substantial increases are anticipated this year. The Middlewest, as a whole, stands a good chance of increasing its apple production from 15 to 20 per cent over its 1942 total.

A crop, fully as large as last season's, is expected in Washington. Idaho had a short crop in 1942 and there is reason to believe that the 1943 production will represent an increase of about 25 per cent. The same is true of Oregon and California.

Carefully weighing all these factors at this time we estimate that the 1943 apple crop will be from five to 10 per cent less than the 1942 crop.

PROCESSING WILL CUT INTO APPLE CROPS

served for Government purchase. The Food Distribution orders set the quantity of canned apples of the 1943 pack which shall be reserved for Government purchase as 63 per cent of the total pack of canned apples in 1942. The quantity of apple sauce to be reserved for Government purchase is set as 41 per cent of the total 1942 pack. In addition to the quantity which may be canned in tin for Government purchase, in the case of both canned apples and canned apple sauce, a quantity may be canned in glass for civilian use equal to 25 per cent of the quantity canned in tin and glass from the 1941 crop.

No information is available relative to the quantity of apples which will be cold packed during the coming season. In view of the shortage of tin, we may assume that the quantity thus packed will be greater than the 15.6 million pounds frozen from the 1942 crop. It would not be unreasonable to assume that the frozen pack may approximate 20 million pounds requiring .6 million bushels of fresh apples from the 1943 crop.

To appraise the requirements for dried apples, a brief statement relative to all dried fruits is in order. Total packed processed supply of all dried fruits and raisins for the 1942-43 season, including carry-in, was estimated to be 595,700 tons. Of this quantity, approximately 260,000 tons will move in non-priority channels, or for civilian consumption in this country. Except for a very small carry-over, the remainder is required to meet military, lendlease and other government needs. The supply of dried apples made up less than four per cent of the total supply of all dried fruits and raisins.

While almost any quantity of dried apples could be used, it is hoped that at least 30,000 tons from the 1943 crop will be produced as compared with the productions from the 1942 crop of 19,000 tons. The present capacity of the drying plants in the West is estimated to be 18,000 tons and in the East to be 5,500 tons, making the total capacity for the United States 23,500 tons. If 30,000 tons are to be produced in 1943, present facilities must be expanded. If we assume that 30,000 tons of dried apples will be produced this coming season, a total of 12.5 million bushels of fresh apples will be required.

According to the foregoing estimates, the total quantity of fresh apples from the 1943 crop which will be required to produce the desired quantities of dried apples, canned apple sauce, and canned and cold packed apples during the coming season will be 20.4 million bushels, or about the same as the 20.2 million bushels of fresh apples required to produce such processed apples during the 1942-43 season.

How these figures may compare with the utilization of the 1943 apple crop, of course, remains to be seen. Obviously, the underlying factor in the whole apple deal will be the actual size of the crop.

CALIFORNIA CITRUS

FOOD dealers and consumers, alike, will be pleased to learn that the California Valencia orange crop for 1943 will be equal in volume to the second largest crop on record.

In spite of the fact that California citrus growers are diverting 20 per cent of their orange shipments to processing plants in order to meet the Government requirements for concentrated orange juice for the armed forces and lendlease, it is expected that approximately 40,625 cars of California Valencias will move to market this summer. Although this volume is equal to the large shipment record of 1942, many feel that it will not be sufficient to meet the increasing demand for citrus fruits. Increased buying power and the current demand for healthful food, they say, will result in far larger individual purchases of oranges this summer.

The supply of lemons for the summer season is expected to be large enough to satisfy the increasing demand for this product. It is interesting to note that lemon shipments are running far ahead of any previous year's record. The health value of lemons, plus increased purchasing power, undoubtedly, accounts for this. The Government also is using tremendous quantities of lemons. It is expected that a total of 1,700,000 gallons of lemon concentrate will be required by the Government this year.

The California citrus grower is well aware of the essential nature of his product. In spite of adverse labor conditions, transportation and material problems, the growers will bend every effort to move their entire crop to market in such a manner that consumers throughout the Nation will receive the maximum possible supply of citrus fruit.

This wide stretching vineyard is part of approximately 25 acres of grapes which are cultivated on the Hartman Farm, near Columbus, Ohio. The pasteurized grape juice, for which a goodly portion of the crop from these vineyards is used, is a healthful and unadulterated grape juice.

20,000 GALLONS OF VITAMIN C

By

MAJOR E. WOMELDORFF

Hartman Farm, Columbus, Ohio

THE year 1942 was a peak year at the Hartman Farm on U. S. Route 23, five miles south of Columbus, with 20,065 gallons of grape juice produced from approximately 25 acres of grapes. Though the farm was laid out and operated many years ago by the late Dr. S. B. Hartman, grapes were not planted until 1928, so this tremendous 1942 production represents an endeavor that is only 14 years old.

In 1928 it was decided that a large vineyard be planted on some of the hilly land of the Hartman Farm which already included apple, peach, cherry, and plum orchards, a large dairy and milk plant, beef cattle and hogs. The land selected for this new planting for years had been used only for pasturing cattle, which made fertile soil for a vineyard and which accounts for the ensuing high productivity of the vines. In the fall of 1928 9700 vines were planted and cultivated in both directions during the following season. The next winter the posts and wires were added. The second year after the planting, the vines began to bear.

During the first few years a large portion of the grapes was marketed at a roadside market on the farm. The rest were sold to chain stores in the nearby city. The demand for the grapes was so good, it was decided that another vineyard of 4000 vines should be planted. This brought production up so that another outlet was needed.

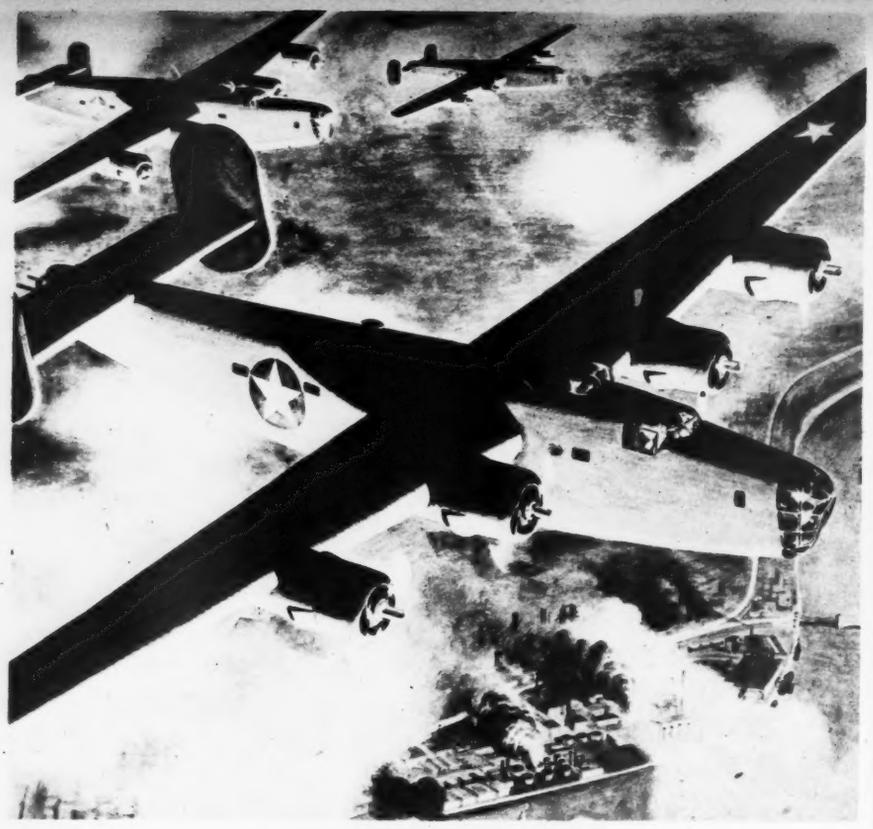
There was a large cider press on the farm and it was decided that some of the grapes should be pressed into juice. This was done and the juice was sold to local trade. But the juice was raw. It soon fermented and, since refrigeration was lacking, the idea of pasteurizing the juice was developed.

Experiments were made with frozen juice in a commercial cold storage plant in the city, and in a small way efforts were made to pasteurize the juice in a home canner, putting it up in gallons and half-gallons. Four years ago the advantage of selling pasteurized juice, which could be held for months, over selling grapes which had to be packed in small containers and sold in a short period regardless of marketing conditions, was fully determined.

Pasteurizing and filtering equipment was purchased. A large electric screw-type press, and a cabinet for heating jugs already were on the farm as well as one large steam-jacketed kettle. Gallon and half-gallon containers, instead of the usual pints and quarts, were used so that the consumers would receive the benefit of the savings on packing and packaging expense.

Today the process of pasteurizing grape juice on the Hartman Farm consists of crushing the grapes without crushing the seeds, and then heating them in an open kettle which is on the floor above the press. The cooked grapes go to the press by gravity flow. The juice then is pressed out and

(Continued on page 20)



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For example, in every Pratt & Whitney airplane engine we build there are over 6,000 individual parts. *Over 6,000 of them!* And our engineers, craftsmen and supervisors handle every part with surpassing care—hold it to the finest limits of precision.

So . . . when our fighting men fly a bomber powered by Chevrolet-built Pratt & Whitney engines, or use any other type of Chevrolet-built equipment . . . they will find that it serves with a fidelity matching their own.

CHEVROLET

DIVISION OF

GENERAL MOTORS

OREGON PEARS

(Continued from page 9)

in rills, spaced three feet apart between the rows of trees.

The practice of irrigating reduces the need for cultivating as weed control is not necessary to conserve moisture. Most orchardists plant a cover crop of vetch, or vetch and oats, in the fall and allow it to grow until the spring or early summer. It is then disced under and the rills put in for irrigating. Cultivation practices vary greatly; some growers cultivating after each irrigation and others irrigating two or three times in the same rills. The latter practice is more generally followed.

There is a two-month period before, during and after the blossom period, which is in early April, when spring frosts present a hazard to the developing crop. To prevent injury from these frosts, the orchards in the colder locations are equipped with smudge pots.

Medford is not the first area to smudge because smudging has been practiced in some form since the early ages. It is, however, the area in which the organized fruit-frost service of the weather bureau was started and where most of the early experimental work on damaging temperatures to pears was carried on. This frost forecast service was started here in 1917 and has been continued without interruption.

Each year, starting the middle of March and continuing until June 1, a representative of the U. S. Weather Bureau issues a nightly frost forecast from the local radio station. This tells the minimum temperature expected and the temperature the buds in their various stages of development will endure.

Some growers are equipped with alarms which ring when the temperature reaches a set point. Others check the temperature at intervals during the nights when frost is probable. When the temperature gets to the danger point the smudge pots are lighted. The smudge produced is of no value, the protection comes from actually raising the temperature.

Pest and disease control even in areas well suited to pear production is a major problem. Fire blight, scab, codling moth, scale, and the various mites are the most serious.

One of the major reasons pears are not generally of commercial importance east of the Rocky Mountains is because of the virulence of fire blight in that area. While not as serious in Oregon, it still is one of the major diseases.

The greatest danger of infection is during the blossom period, or during a heavy late bloom. Favorable conditions such as a warm rain at those times plus a few hold-over cankers can develop easily into an epidemic

condition. Fortunately, these severe outbreaks occur in this area only once in about 10 years. In the meantime, it requires constant vigilance to keep occasional infections removed from the orchard.

The Southern Oregon Experiment Station has developed a French root that is blight resistant. The use of this root for future plantings promises to reduce the number of trees lost from root infection. It does not affect the susceptibility of the variety top worked to it.

Pear scab is one of the most troublesome fungus diseases. It was of no serious consequence in this valley until 1935. Since then it has appeared fairly regularly and while not as serious as in more humid areas it does require special sprays for control.

Codling moth control goes on eternally, but at the end of the season the growers who have sprayed thoroughly have the satisfaction of harvesting a fairly worm-free crop. In an average season a calyx spray and five cover sprays are required for worm control. These sprays are applied at intervals of approximately three weeks throughout the season. The exact timing is determined by moth activity, weather conditions, egg deposit records, and other field observations.

When pears began to be produced in volume, the pear growers formed an organization to take the lead in solving production and marketing problems. This organization, known as the Fruit Growers League, was formed in 1915 and has played a leading part in the development of the industry. The League has been particularly active in encouraging practices that would improve the quality of the fruit.

The Medford growers always have realized that to produce a good pear is not enough. It must be delivered to the consumer in a state of high quality. To attain this end the Medford growers in 1929 organized a marketing committee and stationed a representative in one Eastern market to work out a desirable marketing procedure. This was later expanded to include the entire coast and is now known as the Oregon-Washington-California Pear Bureau. This organization maintains representatives in the major pear markets during the marketing season. Through the efforts of this grower-supported organization, the practice of selling green winter pears to the consumers is being changed. Each year more and more pears are being conditioned so they can be sold to the consumer in a ripe, or nearly ripe, condition.

The growers of winter pears believed that, if they produced a quality product and assisted in marketing it in prime condition, the domestic markets could use the total output. The greatly increased demand has proved the soundness of this belief.

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AMMONIUM SULFAMATE

BETTER THINGS for BETTER LIVING...THROUGH CHEMISTRY

STATE NEWS

MARYLAND—Maryland fruit growers were interested in the new deblossoming sprays for apples as a means of lightening the fruit-set and reducing the thinning job. But after numerous late freezes, they lost interest in these sprays and were only hoping to get a few quiet days during which to apply the usual sprays.

Recently, a Maryland fruit grower introduced a new and potent rival to the usual "campaign cigar." He entered politics and used well-matured, highly colored, drop apples in special paper wraps on which his campaign platform was printed. He did not quite win, but he did scare badly the opposition, and his telephone was almost worn out with calls for apples just like the ones he had passed around.—A. F. VIERHELLER, Extension Horticulturist, College Park.

MASSACHUSETTS—The radio spray service which has been so helpful to growers in past years is in operation again this year. The first message was broadcast on April 27. Timely fruit pest control information is prepared by the Departments of Botany, Entomology and Pomology at Massachusetts State College. This service is particularly important in helping growers to correctly time spring and early summer scab sprays.

Cases of serious mouse damage were reported this spring. Even old large trees have been completely girdled by meadow mice in orchards which were inadequately poisoned last fall. Considerable bridge grafting and inarching has been done to save injured trees.

There was considerable winter injury in this State to fruit trees, particularly sweet cherry, peach and some varieties of apple. Brambles evidently suffered less than in some previous and more moderate winters. The full extent of cold damage can be more accurately ascertained as the season progresses.—LAWRENCE SOUTHWICK, Massachusetts State College, Amherst.

OREGON—Frost damage to pears, peaches, and cherries reduced the crop expectancy in southwestern Oregon.

Italian prunes were damaged along with the English walnut. Extent of the damage cannot be given at this time. The loss, however, has fallen more heavily in some orchard locations than in others as is quite usual on account of varying elevations and natural protection.

Frost damaged the already reduced Marshall strawberry crop in the Willamette Valley. Strawberries ripened in Jackson County but the crop was not large.

The State of Oregon is organizing to harvest and care for crops. This should be a great help to the horticultural industry which cannot get sufficient help.—O. T. McWHORTER, Sec'y, Corvallis.

NEBRASKA—Fruit prospects are none too bright in Nebraska this year. The peach buds were all killed in March. Although there has been some replanting to replace the acres of cherries and apples which were lost in the 1940 freeze, these new plantings are too young for crops this year. Because of winter injury of canes and wind damage, the black raspberry crop is expected to be less than 50 per cent of what it was last year. The grape crop will be better than in 1942 on the vines that were given good care. The price of grapes in the past few years has been too low to encourage the growers. In fact, last year it was lower than that of other fruit crops and there has been a tendency to neglect grapes during this period of labor shortage.

Some growers, near the towns and cities, have been using high school children of 14 and 15 years of age to relieve their labor problems. One grower uses three or four such youngsters for two or three hours after school on good days. He finds that with a little direction they accomplish about as much as older boys and men. They do not have the stamina to stand up under a full day's work at heavy jobs, but he has worked out a system to take care of this. He alternates heavy work and light work during the day.

These same boys will be used later in the season for picking, thinning and grading fruit. This grower finds that they are willing workers, eager to learn and to help during the present wartime crisis.—E. H. HOPPERT, Extension Horticulturist, Lincoln.

TENNESSEE—Many individual peach growers in this State have orchards now that are bare and, since only about a third of a normal peach crop will be produced in Tennessee this season,

BASS FRYER

many growers are turning to crops of annuals to tide them over.

One example of this is the case of Bass Fryer. Every year with his son-in-law Jack Hitt, he operates a splendid orchard near Goodlettsville. He keeps on hand a dozen sash of sturdy tomato plants ready to plant if the frost destroys his peach crop. "This is crop insurance," Hitt says. "If the peach crop sticks, we're too busy to plant many tomatoes and we sell the plants readily to farmers in the neighborhood."

Although some growers with young orchards are reporting bunch beans, potatoes, and other vegetable inter-crops, tomatoes are the leading crop.

Mr. S. N. Varnell, another peach grower who has a light set of peaches on his 70-acre orchard at Cleveland, will supplement his program this season with extensive tomato planting. His home cannery will pack the produce from about another hundred acres in his neighborhood.—A. N. PRATT, State Horticulturist, Nashville.

SOUTH DAKOTA—Alfred R. Schamber, Rapid City, reports that blossom buds on the more-or-less tender varieties of plums apparently are victims of a warm February and a cold March.

Throughout this state Robertson black raspberries show the worst winter injury in 10 years, although apples evidently are unhurt.

By the middle of May it looked as though this was to be a "year without a summer." Fruit trees were in full blossom but there was a succession of freezes with the temperature going as low as 28 degrees around Sioux Falls and lower in more northerly sections of the State. Hopes for 1943's fruit crop are somewhat pessimistic.—W. A. SIMMONS, Sec'y, Sioux Falls.

CONNECTICUT—Providing pollination weather was favorable during the bloom period, Connecticut fruit growers anticipated a crop equal to about two-thirds of last year's crop. Two commercial growers in southern Connecticut, where February temperatures were about 12 degrees below zero, had 10 per cent of a normal peach bloom.

Most growers who did not follow the Fish and Wildlife Service recommendations of prepared rodenticide powder on apple bait in active mouse runs last fall found a considerable amount of apple and peach tree girdling by mice this spring. The field mouse and pine mouse population is high and Connecticut fruit growers will have to follow a general mouse baiting program next fall if they are to control these rodents.

Apple scab spores matured early this year and rains in the early pre-pink and pink bud stage caused considerable scab infection where fruit growers had not applied a protective sulfur spray or dust before the rains. Fortunately, most growers were able to apply a pre-pink spray this year.

Some growers are interested in using a combination fiberboard and wood box and wooden box shook, made in local shingle mills, to supplement the regular wooden apple boxes this year. Growers have on hand more used containers than ever before and they expect to use them for a part of the 1943 apple crop. —H. A. ROLLINS, Extension Fruit Specialist, Storrs.

INDIANA—"Peach prospects are far better than expected though lots of blooms still look sickly and probably will not set fruit," according to Ira Mead, Manager of Pierce Orchard, Brazil, Indiana. Immediately following the March freezes, Mr. Mead, like many other fruit growers, reported almost a complete kill in his orchard, but he now finds that prospects for a sufficient set of fruit warrant a good summer spray program.

Mr. Mead reports the relative hardiness of different varieties. Young Champion and Golden Jubilee trees produced sufficient blossoms for a 60 per cent crop while older trees only had a sprinkle of bloom. Hale trees promise only about a five per cent crop, Colora nothing, and Elberta trees on higher areas have a goodly appearance of blooms.

J. C. Dougherty, Cambridge City, Indiana, reports prospects for about one-fourth crop on six-year-old trees while younger trees have very few live buds. Rochester is best with enough buds for a good crop. He comments, "We were very disappointed in Cumberland which has proved to be a very hardy variety in some seasons. Rochester has proved to be our hardiest variety both in wood and bud over a period of years."

Commercial shipments of strawberries began about the 25th of May with the main crop to be harvested in Indiana after June 1st.

Conditions have been ideal for the development of apple scab in the Hoosier State and growers have been spraying during the rain in many cases in an effort to check the development of this disease.

The periods of bee flight have been very short in all areas during the blossoming season, but earlier reports from the extreme southern portion of the State indicated a reasonably heavy set of fruit.—MONROE McCOWN, Sec'y, Lafayette.

HOLD YOUR APPLES ON THE TREES UNTIL THEY ARE READY TO PICK

You know from experience there is no money in windfalls. You can practically eliminate premature dropping of Transparent, Duchess, Wealthy, Jonathan, Golden Delicious, Red Delicious, Stayman and Winesap apples; also Bartlett Pears, if you will spray with S-W Stop-Drop. The cost is incidental compared with the losses incurred when fruit drops prematurely. The benefits are surprising.

There is only one S-W Stop-Drop—the largest selling and most successfully used synthetic plant hormone spray. We are prepared to fill orders now and recommend you buy your 1943 requirements early. Write at once for folder and prices. Address: The Sherwin-Williams Co. Insecticide Sales Dept., 101 Prospect Ave., N.W., Cleveland, Ohio

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IN THE NEWS

DR. RAY H. ROBERTS

At the recent 74th Annual Convention of the Wisconsin State Horticultural Society, Dr. Ray H. Roberts of Madison, Wisconsin, received an honorary recognition certificate for his "eminent services in advancing the science of fruit growing through research, and as a counselor of students and orchardists."

Dr. Ray H. Roberts

Born on a farm near Lebanon, Oregon, he later was graduated from Oregon State College and in 1915 he became extension specialist at the University of Wisconsin. Breadth of the field in which he has made contribution is widespread.

●

FRANK FARNSWORTH

Frank Farnsworth, President of the Ohio State Horticultural Society, operates the famous 250-acre Frank Farnsworth Fruit Farm, Waterville, Ohio, which was developed by his father, the late Senator W. W. Farnsworth who began the enterprise in 1877.

Frank Farnsworth

The farm is principally planted to apples and sour cherries, with small blocks of peaches, pears and plums. The fruit is handled through a packing house which is connected with a 16,000-bushel refrigerated storage and a farm sales room where about a fourth of the fruit produced is sold.

Beginning 18 years ago, off-grade apples were processed into apple juice in gallon bottles. This business has increased greatly and during the past year Mr. Farnsworth packed 50,000 cases of apple juice, and shipped through brokers to many points in the eastern part of the United States.

●

CHRISTIAN GEIR

One of North Dakota's leading fruit growers is Christian Geir, Edinburg. Born in Manitoba in 1879, he was brought to western Pembina County by his parents. Here his father established the farm where Mr. Geir now resides.

Christian Geir

In 1911 he planted his first fruit trees. They included six Whitney crabs and four Duchess apples. Five of the Whitneys are still in good condition and bore a large crop in 1942. The Duchess, however, never reach bearing age. Gradually more apple trees as well as plum and cherry trees were set out.

"The 1942 crop of fruit and berries is the largest we ever have picked," says Mr. Geir, "and still it was not large enough to meet the demand."

The Geir home, known as Bonnie Brook Farm, is located on the western side of Glacial Lake Agassiz. Unfortunately, Mr. Geir now works here alone as his son this year is a prisoner of war in Germany.

NUT GROWERS NEWS

NOTABLE QUALITIES OF BLACK WALNUTS

IN a report of the Northern Nut Growers' Association, Prof. N. F. Drake of Fayetteville, Ark., presented data on kernel production in a number of black walnut varieties. Rated on the basis of their performance in northwest Arkansas, in this order, are Stabler, Thomas, Ten Eyck and Ohio.

Stabler is a good bearer, of good size, and an excellent cracker. It has a high percentage of kernel, a thick husk and a rather rough shell. The color of the kernel is usually a little too dark. Thomas is a good regular bearer, producing nuts of good size and cracking quality. Kernel color and flavor are good. The tree is less hardy than the tree of Stabler. Ten Eyck has a fairly thin husk and shell with a high percentage of kernel which cracks out well if the nut is well developed. Ohio produces light crops. The nuts crack out well if of large size for the variety, but poorly if the nuts are small.

Prof. Drake divides black walnut varieties into four groups which he names for an important variety in each. In the Thomas group he places Sifford, Bellville, Kalamazoo, Pinecrest, Thomas and Fones. These varieties all produce fairly large nuts, slightly flattened and elongated.

The Stabler group contains in addition to that variety Cooper, Weber, Ohio and Arnold. These varieties have in common the characteristic of rough, long, pointed shells and thick, heavy husks. Stabler and Cooper are large, Weber and Ohio medium in size, while Arnold is small.

To the Mintle group belong Mintle, Pace, Patterson, Edmunds and Ogden. The nuts are small, round with smooth shells and of excellent cracking quality.

In the Ten Eyck group are Wanda, Snyder, Edras and Ten Eyck. The nuts are medium to small in size and husk weight. All produce a high proportion of kernel and have shells that are somewhat elongated and thin.

In the Monterey group we find Meyers, Clark, McMillen, Kingery, Gilman, Martin, Michigan and Monterey. The nuts are rather large, somewhat cube-shaped and fairly thick-shelled.

Prof. Drake states that a profitable black walnut variety should produce a high percentage of kernel which cracks out easily in whole quarters. —G. L. SLATE, *Sec'y*, Northern Nut Growers' Assn., Geneva, N.Y.

Cleanliness CUTS CASUALTIES
Our armed forces everywhere are also fighting dirt and disease—frequently more dangerous than bullets. Mobile laundry units are provided, with small gasoline engines as a part of the power equipment. One more "service star" for rugged, dependable Briggs & Stratton engines, now serving our armed forces in many ways.
ONCE again we want to urge every one here back home who owns or operates Briggs & Stratton 4-cycle, air-cooled gasoline engines, to do everything possible to keep them at top efficiency. Not only will extra service be gained, but the critical materials that would be needed in unnecessary repairs will be saved.
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Keep your Briggs & Stratton gasoline engines clean, properly adjusted, well lubricated, and in repair. Your nearest dealer or Briggs & Stratton Service Station will be glad to help you.
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"keeps 'em on longer"—until the right time for picking. You'll get bigger apples and pears of better color. Most important—you can extend your picking season to use less labor.

S. N. A. is easy to mix and apply. Cost is very small—saving very big!

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Cuts "Spot Picking"
Increases Size and Color
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Write for folder and prices
WESTVILLE LABORATORIES
Stepney, Conn.

FERTILIZING PEACHES

(Continued from page 8)

Table 1 shows that the sugar content of the flesh of both lots of fruit was 73 per cent greater at harvest than at the beginning of the period, even though the number of days concerned was less than half that of the first and second periods. Here again the importance of nitrogen in developing an extensive leaf area is apparent for not only was the sugar content of the nitrated fruits approximately the same as that of the check fruits, but also the nitrated fruits were 22 per cent larger, even though there were more fruits per tree.

The increases in size and sugar content shown in Table 1 emphasize the desirability of allowing the fruit to become as mature as is consistent with the operations necessary in harvesting and packing. The check fruits on July 29 were in the stage of maturity at which peaches are commonly harvested commercially. From July 29 to August 4 the size of the fruit increased 35 per cent and the sugar content eight per cent. From July 29 to August 9, the size increased 50 per cent and the sugar content of the flesh 42 per cent. The calculations for the same maturity stages in the nitrated fruits show that in the seven days from August 4 to 11 the size of the fruit increased 33 per cent and the sugar content 18 per cent, and in the eleven-day interval, August 4 to 15, the size increased 35 per cent and the sugar content of the flesh 28 per cent.

Furthermore, careful observation shows that the flavoring compounds of the peach increase very rapidly during this time. These data show that employing extra care in picking, transporting, handling, and packing so that fruit can be harvested in as mature a condition as possible will provide significant increases in yield and quality and probably in market price.

The discussion above on the increases in sugar content and flavoring compounds of the flesh shows why the consumer can be expected to prefer more mature peaches. Furthermore, the percentage of the fruit

Table 1. Increase in fruit volume and in sugar content of peach flesh during the third growth period. Halehaven, Urbana, Illinois, 1938. C = fruit from check tree. N = fruit from nitrogen fertilized tree.

Growth period	Date collected	Days after bloom	Volume in cc.		Per cent sugar*	
			C	N	C	N
III	July 7	84	35.12	35.32	4.59	4.54
	July 15	92	44.80	45.00	4.31	4.28
	July 21	98	58.00	57.64	4.78	4.70
	July 29	106	87.00	83.80	5.58	5.30
	Aug. 4	112	118.20	118.00	6.03	6.11
	Aug. 9	117	130.68	——	7.95	—
	Aug. 11	119	——	157.00	—	7.21
	Aug. 15	123	——	160.28	—	7.87

*Per cent of fresh weight.

was flesh-increased as the fruit neared maturity, which means that there is less waste from stones and peel as the fruit matures. The nitrated fruit had a slightly higher per cent of flesh than the check fruits and no detectable difference in quality by disinterested observers. Therefore, the desirable qualities of the fruit can be maintained in fruit from nitrogen fertilized trees and the yield significantly increased at the same time because of greater set and increased fruit size as compared to unfertilized trees.

In view of the facts presented above, the following recommendations are made for 1943. If a nitrogen application was not made preceding or at bloom, apply either nitrate of soda or sulfate of ammonia at any time up to the early part of the third period of size increase. It will be of some help in increasing fruit size and will be an advantage in the general nutrition of the tree. The earlier it is applied, the greater will be the effect this year. If a light application was made near bloom, a second application about the time the stones begin to harden is desirable, or, if not available at that time, apply it at any time up to the early part of the third growth period. While a general rule is to apply one-fourth pound of nitrate of soda or sulfate of ammonia per year of age of tree, with a maximum of five pounds per tree, some trees will not need this much. The grower must use his own judgment in adjusting the application to the vigor of the individual trees. This is especially important now when limited supplies are available. But most trees with a crop will make a satisfactory response to an application. *Remember that one bushel of good peaches will pay for the cost of fertilizer and its application to several trees.*

HOME DEHYDRATION

OF interest to those who plan to dehydrate their own fruits and vegetables at home this year in anticipation of building up a home supply of foodstuffs are these two new bulletins:

Dehydration of Fruits and Vegetables In The Home, Bul, No. 183, March 1943, by G. A. Shuey, Agricultural Experiment Station, Knoxville, Tenn. This contains excellent drawings of a small cabinet-type fruit and vegetable dehydrator for home use.

Dehydration of Fruits and Vegetables and Utilization of Dehydrated Products, Bul. 225, February 1943, by J. G. Woodroof, W. E. DuPree and Helen H. Thompson, Georgia Experiment Station, Athens, Ga. This includes a list of various vegetables and fruits which are especially recommended for dehydration and gives other helpful information.

How Narrowed Market Spread Builds

GREATER FARM INCOME

A Report by the

ATLANTIC COMMISSION COMPANY, INC.

Again in the past year, you growers and shippers who marketed your fresh fruits and vegetables through us received more of the consumers' dollar—20% more than was possible only five years ago. In 1937 you got 46.8 cents; in 1942, 56.3 cents of this dollar ... a gain of 9.5 cents and a return substantially higher than the national average.

How Growers-Shippers' Share of the A&P Produce Dollar Has Jumped 9.5 Cents in Five Years

By further cutting distribution costs and thereby narrowing the market spread, Atlantic Commission Company and A&P have again increased farm income.

As every producer knows, farm income is determined by two factors—the per unit price he receives (the retail price less cost of distribution); and the total volume of produce he sells. Naturally, the smaller the cost of distribution, the greater the grower's return.

Year by year our record has been one of consistent progress—lowering damage and spoilage and increasing efficiency in handling and delivery methods, as well as cutting our buying and retailing expenses.

Every one of our operating costs was substantially less in 1942 than in 1937—aggregating one-fourth less. Five years ago it took 53.2 cents of the A&P retail dollar to transport and distribute fresh fruits and vegetables. In 1942 this cost was sliced to 43.7 cents—a continuation of our long-time performance in returning to you an increasing share of the retail dollar.

How All Growers Benefit

The progress we have achieved in low-cost distribution has not only *directly* benefited the thousands of growers whose produce we move into consumption; it has *indirectly* benefited *all* growers because our efficiencies are serving as a pattern for other distributors.

For a long time we have been emphasizing to you the importance of efficient low-cost distribution. In some seasons, excessive supplies have demoralized markets, reducing or even eliminating your profits—thereby making it difficult to see the tangible benefits of a narrower market spread. In other seasons, like the present, when supply and demand are more nearly in balance, these benefits become more apparent.

But over a period of years the full value to you becomes crystal clear: Every cent saved in distribution is another step in increasing your income.

Today, demand for fresh fruits and vegetables is unusually strong—and retail prices have risen. As a result, growers are now cashing in on the years of work of efficient distributors. They are realizing cash returns that are higher now because of the rise in retail prices; but their returns are *substantially* higher because less of the retail dollar goes to pay distribution costs.

Value of Teamwork

The greatly increased wartime demand for fresh fruits and vegetables is a challenge to producers. But beyond this, it offers growers an opportunity to build expanded, stable markets that *can* endure when peace comes.

These markets *will* endure if growers see that standards of quality, grade and pack are maintained, insofar as wartime conditions will allow, and if growers and distributors work together even more closely to see that produce is marketed with utmost efficiency and economy.

This teamwork, plus the narrowing of the market spread 9.5 cents in five short years, means greater farm income today and holds the promise of a more stable and profitable farm economy in the years ahead.

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Affiliate of

THE GREAT ATLANTIC & PACIFIC TEA COMPANY

I FIND THERE'S
NOTHING
BETTER!
"I know the Orchard Brand Shield means the best protection for my crops. It will help me grow more good food for Victory!"

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SPRAYS & DUSTS
REG. U.S. PAT. OFF.

Use ORCHARD* BRAND

NICOTINE SULFATE

Contains 40% Nicotine (expressed as alkaloid)

If Nicotine Sulfate is called for in your spray schedule, you will find there's *nothing* better than Orchard Brand! Orchard Brand enjoys the confidence of growers *everywhere*, because of its uniform spray efficiency—every package having the same *high strength!*

TWO-WAY ACTION

1. Orchard Brand kills by contacting, or by hitting the insect.
2. Orchard Brand Nicotine Sulfate fumes penetrate the curled leaves, and kill many insects by "gassing" them.

USE STAFAST*

For BIGGER Apple and Pear DIVIDENDS

Plan *now* to use STAFAST, the proven hormone spray! Controls premature dropping of apples and pears . . . spreads out the picking season. It holds 'em on the tree longer to give better size and color—gives you *more money for your crop!*

1. Gives higher yields of premium grades of fruit.
2. Greatly reduces windfall loss.
3. Spreads out picking season, thus helping to solve labor problem.
4. Proved and *approved* by orchardists everywhere.

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20,000 GALLONS OF VITAMIN C

(Continued from page 11)

pumped to another kettle where it is heated to the proper temperature and put into five-gallon glass jugs, or carboys, which have been heated to the same temperature. Following it is stored for at least 90 days to settle the tartrates. By this method, it is possible to bottle from 2000 to 2400 half-gallons a day.

After this period of 90 days has elapsed, the juice is bottled for market. It is pumped through a filter, then into a large kettle in which it is heated to the proper temperature. Afterwards it is put into half-gallon jugs of the same temperature. These jugs are labeled and packed into cartons in lots of six.

No sugar or preservative is added to the juice. The grapes are selected at a time when their proper ripeness makes a juice that needs no added condiments.

Last year 3500 gallons of juice were sold at the farm's roadside market. This does not include the gallons that were sold by the glass at the stand. Several large hospitals and doctors were supplied with the juice, and the balance was sold in leading stores in Columbus, Ohio. In introducing the grape juice in the stores, girls wearing special uniforms were employed to offer small drinks to passing customers. This was all the advertising expense which was incurred.

This grape juice processing, however, is not as simple a matter as that of processing cider and other fruit juices. Each step must be exact and done by conscientious workers. One of the most important points is cleanliness. The press cloths and racks, everything about the plant, must be washed daily and kept scrupulously clean. The cloths and racks should be sunned. There is great danger of mold on this particular juice and extreme care must be used if the final product is to be good.

Nevertheless, it is worth a world of good cooperation and management, for it results in a very healthful product as well as a commercially successful one.

KATFISH BRAND SPRAY HOSE HIGH PRESSURE
ALL SIZES
High-Pressure Couplings
LOW PRICES, PROMPT SERVICE
Write for free sample
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Everything in Rubber Since 1901
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EARLY BIRD TREE BANDS CHEMICALLY TREATED. Low in price, high in quality. Send orders early. EDWIN H. HOUSE, Saugatuck, Michigan.

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WANTED ORIGINAL SONG POEMS. FIVE STAR MUSIC MASTERS, 716 Beacon Building, Boston, Mass.

"BLUEBERRIES"

BLUEBERRIES keep their Vitamin C content longer than any of the other berries tested, according to the United States Department of Agriculture. This is probably because blueberries are thicker-skinned and injure less easily. As a result, the oxygen of the air, which is destructive to ascorbic acid, is less likely to reach the tissues of the fruit.

APS

CONDUCTED IN THE INTERESTS OF THE AMERICAN POMOLOGICAL SOCIETY

AN OPPORTUNITY FOR KING APPLE

MEMBERS of the American Pomological Society and affiliated organizations unite in urging apple producers throughout the nation to increase the production of high grade fruit this year.

The most authentic reports coupled with the statements of those best informed indicate that growers may be optimistic about the demand for apples and may be sure they will sell at good prices. Since the Washington State apple growers already have increased their assessment 50 per cent for advertising the crop this year, it is obvious that these northwestern producers expect to sell their crop at satisfactory prices. Their action also gives abundant proof of their belief that it pays to advertise high quality apples.

The wartime conditions and the urgent need for food should furnish the most pessimistnc grower with ample evidence that he may go to great efforts and even incur more expense than normal in production and harvesting practices this year. Strike now! This is the opportunity for King Apple—T. J. TALBERT, President.

Annual Proceedings Reports

THE Secretary's office recently received a number of state horticultural society reports of which several are outstanding. The Ohio State Horticultural Society published the "Proceedings of the Seventy-Fifth Diamond Jubilee Meeting—1942." This excellent report contains 450 pages of which 175 pages are devoted to a fine historical account of Ohio horticulture.

The Report of the Illinois State Horticultural Society contains more than 400 pages. It contains the proceedings of the State Society meeting and also the proceedings of the Northern, Central and Southern societies. Many fine pictures are included.

The Proceedings of the Washington State Horticultural Association is unique in that it contains a "Report of the 1942 Stone Fruit Virus Disease Survey in Washington." This most excellent report is profusely illustrated with color plates as well as halftone illustrations.

There seems to be a definite trend in the direction of using more pictures in the horticultural society reports. Pictures do much to "tone-up" these books.

The Proceedings of the 58th Convention of the American Pomological Society is tentatively scheduled to be in the mails by June 15. This report will consist of about 300 pages, and will include a number of highly interesting illustrations. This is probably the best APS report published since 1930. This 300-page book will be sent postpaid to all paid-up members along with a year's subscription to AMERICAN FRUIT GROWER Magazine. Send membership dues to the Secretary at Ames, Iowa.

N. L. Lantz
SECRETARY

A MAN WHO CAN'T REMEMBER HIS LAST HAILSTORM IS LIKELY TO GET ONE HE WILL NEVER FORGET

Hail is one of Old Man Weather's worst brats. And you can't control the weather. But you can protect your cash investment and cost of production by covering your crops with a Hail Insurance policy.

No section is immune from Hail. It may strike anywhere—any time—and even those who live in supposedly Hail-free country cannot afford to take chances . . .

. . . especially this year when, due to high production costs and unusual prospects for good prices, protection is more essential than ever before.

You need this kind of safeguard for your growing fruit crops. Buy your Hail Insurance from one of the sound capital stock companies named below.

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Your local agent—representing one of these companies—can provide you with real protection. See him today, or write to one of the companies in care of Hail Department, 209 West Jackson Blvd., Chicago, Illinois.

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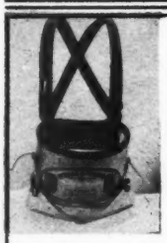

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USE WELLS & WADE

Fruit Picking Buckets and Bags

AND HAVE LESS BRUISED FRUIT

The highest quality bags made

Used throughout the Wenatchee and Yakima Valleys.

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FRUIT PICKER

Gets fruits hard to reach without climbing trees or slippery ladders. Saves time. $1.25.

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MARKETING

FUNDAMENTALS OF ROADSIDE MARKETING

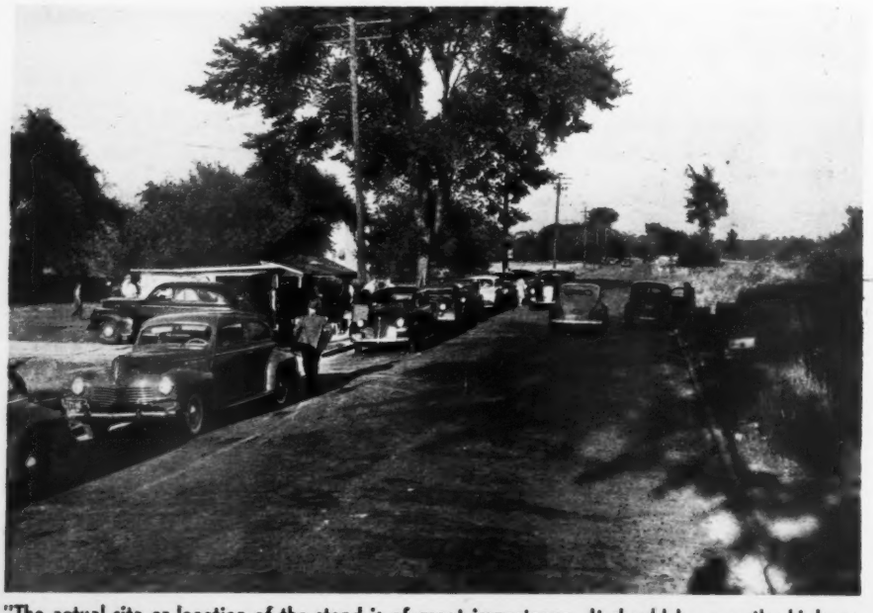
By JONAS HOWARD

THE attitude of the average fruit grower who has operated roadside markets in the past is that he will continue in spite of wartime restrictions which, seemingly, forecast unsuccessful and unprofitable returns because of curtailed driving. Since the experienced roadside market operator feels this way, there is no reason why fruit growers who were planning to establish new roadside markets this year should not proceed.

True, in 1943 and for the duration of the war the success of a new roadside market probably will be less than it would be if times were normal. But from the beginning that is established this year and next, the business will be able to progress better in the normal years to come.

Though individual fruit growers have their own particular ideas and plans for roadside marketing, there always remain certain fundamentals which each operator should take into consideration. One of the most interesting chapters to be written recently on these fundamentals of roadside marketing appears in A PRACTICAL GUIDE TO SUCCESSFUL FARMING, a new 1943 publication of Garden City Publishing Co., Inc., that is a comprehensive and up-to-date encyclopedia of farming, consisting of one thousand pages. The article is written by W. R. Stone, County Agent and horticulturist of Bergen County, New Jersey. He points out that there are three major fundamentals which should be considered before launching into the specialized method of roadside marketing: "(1) the farm must be located near a large residential area; (2) soil conditions must be adaptable to a wide range of crops; and (3) one or more members of the family should have a sound knowledge of production methods, ability to organize, possess sales ability, and an abundant supply of patience."

"Many farmers," Mr. Stone writes, "who pioneered in roadside marketing based their venture on attracting transient trade. They soon found that little dependence could be placed on customers who just happen to stop and buy.



"The actual site or location of the stand is of great importance. It should be near the highway. Most states have highway laws which prevent locating the stand so close to the highway that it is likely to interfere with orderly movement of traffic," writes County Agent W. R. Stone.

"The most successful roadside market operators are those favorably located on the edge of a residential area. The actual site or location of the stand is of great importance. It should be near the highway . . . . It is well to check your highway law.

"In many states there are regulations pertaining to public health which the farmer has not had to consider where his products are sent to market. It would be well, therefore, to check with your local board of health concerning any regulations which might affect the operation of your roadside stand.

"The county sealer of weights and measures should also be consulted to have him specify the type of scales or measures which are legal. He can explain laws and regulations which may save you trouble later. Package types should conform to these requirements.

"One very successful grower maintains standard prices during periods of scarcity even though he could sell on the wholesale market at a price higher than the standard price at his roadside market. He claims he more than recovers his losses by maintaining standard prices when commodities are plentiful. Some other growers argue that it pays best to vary prices in line with the abundance or scarcity of the product.

"Most operators believe that they are entitled to a price at least as high as that charged by green grocers and others selling farm products to retail trade. . . . Price is not an easy thing to determine. Cost of production records, wholesale market quotations, and the reaction of the trade help the stand operator to determine his prices."

Above all, Mr. Stone expresses the feature that today enables many fruit growers to continue business in the face of changed conditions. He says, "The roadside market operator who grows products of high quality, attractively displayed and courteously sold to the consumer, continues to conduct his business on a profitable basis in spite of changing economic conditions."

This, probably, more than anything else describes the element in roadside marketing that spells permanent SUCCESS.

If You Intend To Use

On Your Apples or Pears This Year

Be sure to note carefully the date of full bloom for each variety that you intend to spray or dust for stopping premature drop. Full bloom is the time when the petals first begin to fall. Write us later on in the season for information on timing of application.

FRUITONE for spraying packed in 12 lb. cases.
DUST FRUITONE for dust application in 50 lb. bags.

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American Chemical Paint Co.
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FOR THE FOOD FRONT— MORE FRUIT!

BE READY FOR THOSE RED MITES

Spray with D.N.-111 or Dust with D.N.-Dust D-4

for effective summer control

DN-111 and DN-Dust D-4, recently developed materials, are highly effective for the control of the European red mite on apples during the summer period. One or more properly timed applications of either of these materials will prevent the serious injury to foliage commonly caused by this pest.

Red mite frequently develops to a heavy peak infestation some time during the summer, after which the population may be suddenly reduced. The critical time for the first treatment is early in such a cycle when two or three mites per leaf can be found. This prevents the development of large numbers of mites which cause the characteristic "bronzing" of the leaves. Treatments made later in the cycle during periods of peak infestation are beneficial but the greatest benefits are derived by preventing a "build-up."

DN-111 can be used alone or with lead arsenate in mid or late summer and, under some conditions, with sulfur in early summer. DN-Dust D-4 contains the same toxicant as DN-111 and is applied as a separate treatment.

CODLING MOTH

Dow Arsenate of Lead is standard for the control of codling moth. It may be used with fungicides for insect and disease control or with DN-111 in mid and late summer in a program to control codling moth, apple maggot and red mite.

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Insecticides

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY